



[REDACTED]

February 14, 2012

Dear [REDACTED]

SUBJECT: Analysis Results for Water Supply at [REDACTED] Humboldt  
Township, Marquette County, Michigan

The United States Environmental Protection Agency (EPA) collected a sample from your private water supply on November 1, 2011. Attached is a tabulation of the sample analysis results. The EPA sampled your water supply to assess if past activities at the nearby Humboldt Mine and Mill site had affected groundwater and individual water supplies in the area.

The concentrations of inorganic substances and metals detected in the water supply samples were below established federal and state drinking water standards and health concern levels, and were similar to groundwater quality generally found in Central Marquette County. Organic chemicals were not found in your water supply samples at concentrations above the laboratory method detection limits, with the exception of a minor detection of the chemical, bis(2ethylhexyl)phthalate.

Bis(2-ethylhexyl)phthalate is a chemical that is commonly used in the manufacture of plastic products. When found in a water sample, it is usually due of the presence of plastic materials in the well pump or in the sampling equipment, and is likely not actually present in the groundwater supplying your water well. Even so, the EPA and the Michigan Department of Environmental Quality (DEQ) would like to re-test your well to confirm if this chemical is actually present or not. The EPA will contact you regarding a second access agreement and sample collection date. Analysis of the follow-up samples will also be performed for some inorganic substances not previously researched and for some organic chemicals at a lower laboratory detection limit.

The EPA and the DEQ appreciate your cooperation in these investigations. If you have questions about the sampling efforts, please contact Nuria Mufiz at 312-886-4439. If you have questions about the analysis results, please contact Chuck Thomas, DEQ by phone at 906-346-8534 or by email at [thomasc3@michigan.gov](mailto:thomasc3@michigan.gov).

Sincerely,

Nuria Mufiz  
U.S. Environmental Protection Agency  
Superfund Division  
Region 5, Chicago IL.

Charles H. Thomas, P.G.  
Michigan Dept. of Environmental Quality  
Resource Management Division  
Upper Peninsula District Office

Enclosure

cc: Ms. Dana DeBruyn, DEQ  
Mr. Steve Harrington, DEQ  
Mr. Patrick L. Jacuzzo, Marquette County Health Dept.  
Mr. Don Deblasio, EPA  
Mr. Mark Johnson, ATSDR

## Analysis Results

1 nameEx. 6

## Residential Water Supply

Analyte	MCL (ug/L)	HMDW-009
Matrix		Groundwater
<b>Cyanide (ug/L)</b>		
Cyanide	200	8.1 J-
<b>Metals (ug/L)</b>		
Aluminum		200 U
Antimony	6	60 U
Arsenic	10	10 U
Barium	2000	8.9 J
Beryllium	4	5 U
Cadmium	5	5 U
Calcium		48800
Chromium	100	10 U
Cobalt		50 U
Copper	1300	22.3 J
Iron		100 U
Lead	15	10 UJ
Magnesium		13600
Manganese		2.9 J
Mercury	2	0.2 U
Nickel		40 U
Potassium		5000 U
Selenium	50	35 UJ
Silver		10 U
Sodium		8140
Thallium	2	25 U
Vanadium		50 U
Zinc		60 U
<b>PCBs (ug/L)</b>		
	2	
Aroclor-1016		1 U
Aroclor-1221		1 U
Aroclor-1232		1 U
Aroclor-1242		1 U
Aroclor-1248		1 U
Aroclor-1254		1 U
Aroclor-1260		1 U
Aroclor-1262		1 U
Aroclor-1268		1 U
<b>SVOCs (ug/L)</b>		
1,1'-Biphenyl		5 U
1,2,4,5-Tetrachlorobenzene		5 U
2,2'-Oxybis(1-chloropropane)		5 U
2,3,4,6-Tetrachlorophenol		5 U
2,4,5-Trichlorophenol		5 U
2,4,6-Trichlorophenol		5 U
2,4-Dichlorophenol		5 U
2,4-Dimethylphenol		5 U
2,4-Dinitrophenol		10 U
2,4-Dinitrotoluene		5 U
2,6-Dinitrotoluene		5 U
2-Chloronaphthalene		5 U
2-Chlorophenol		5 U

SVOCs (ug/L) Continued		
2-Methylnaphthalene		5 U
2-Methylphenol		5 U
2-Nitroaniline		10 U
2-Nitrophenol		5 U
3,3'-Dichlorobenzidine		5 UJ
3-Nitroaniline		10 U
4,6-Dinitro-2-methylphenol		10 U
4-Bromophenyl-phenylether		5 U
4-Chloro-3-methylphenol		5 U
4-Chloroaniline		5 UJ
4-Chlorophenyl-phenylether		5 U
4-Methylphenol		0.61 J
4-Nitroaniline		10 U
4-Nitrophenol		10 U
Acenaphthene		5 U
Acenaphthylene		5 U
Acetophenone		5 U
Anthracene		5 U
Atrazine	3	5 U
Benzaldehyde		5 U
Benzo(a)anthracene		5 U
Benzo(a)pyrene	0.2	5 U
Benzo(b)fluoranthene		5 U
Benzo(g,h,i)perylene		5 U
Benzo(k)fluoranthene		5 U
Bis(2-chloroethoxy)methane		5 U
Bis(2-chloroethyl)ether		5 U
Bis(2-ethylhexyl)phthalate	6	73 <sup>a</sup>
Butylbenzylphthalate		5 U
Caprolactam		5 U
Carbazole		5 U
Chrysene		5 U
Dibenzo(a,h)anthracene		5 U
Dibenzofuran		5 U
Diethylphthalate		5 U
Dimethylphthalate		5 U
Di-n-butylphthalate		5 U
Di-n-octylphthalate		5 U
Fluoranthene		5 U
Fluorene		5 U
Hexachlorobenzene	1	5 UJ
Hexachlorobutadiene		5 U
Hexachlorocyclopentadiene	50	5 UJ
Hexachloroethane		5 U
Indeno(1,2,3-cd)pyrene		5 U
Isophorone		5 U
Naphthalene		5 U
Nitrobenzene		5 U
N-Nitroso-di-n-propylamine		5 U
N-Nitrosodiphenylamine		5 U
Pentachlorophenol	1	10 R
Phenanthrene		5 U
Phenol		5 U
Pyrene		5 U

**VOCs (ug/L)**

1,1,1-Trichloroethane	200	5 U
1,1,2,2-Tetrachloroethane		5 U
1,1,2-Trichloro-1,2,2-trifluoroethane		5 U
1,1,2-Trichloroethane	5	5 U
1,1-Dichloroethane		5 U
1,1-Dichloroethene	7	5 U
1,2,3-Trichlorobenzene		5 U
1,2,4-Trichlorobenzene	70	5 U
1,2-Dibromo-3-chloropropane		5 U
1,2-Dibromoethane		5 U
1,2-Dichlorobenzene	600	5 U
1,2-Dichloroethane	5	5 U
1,2-Dichloropropane	5	5 U
1,3-Dichlorobenzene		5 U
1,4-Dichlorobenzene	75	5 U
1,4-Dioxane		100 R
2-Butanone		10 U
2-Hexanone		10 U
4-Methyl-2-Pentanone		10 U
Acetone		10 U
Benzene	5	5 U
Bromochloromethane		5 U
Bromodichloromethane		5 U
Bromoform		5 U
Bromomethane		5 U
Carbon disulfide		5 U
Carbon tetrachloride	5	5 U
Chlorobenzene	100	5 U
Chloroethane		5 U
Chloroform		5 U
Chloromethane		5 U
cis-1,2-Dichloroethene	70	5 U
cis-1,3-Dichloropropene		5 U
Cyclohexane		5 U
Dibromochloromethane		5 U
Dichlorodifluoromethane		5 U
Ethylbenzene	700	5 U
Isopropylbenzene		5 U
m,p-Xylene		5 U
Methyl acetate		5 U
Methyl tert-butyl ether		5 U
Methylcyclohexane		5 U
Methylene chloride		10 U
o-Xylene	10000	5 U
Styrene	100	5 U
Tetrachloroethene	5	5 U
Toluene	1000	5 U
trans-1,2-Dichloroethene	100	5 U
trans-1,3-Dichloropropene		5 U
Trichloroethene	5	5 U
Trichlorofluoromethane		5 U
Vinyl chloride	2	5 U

**Symbol Key**

MCL means maximum contaminant level

ug/l means micrograms per liter and all analysis results as reported as ug/l

SVOC means semi-volatile organic chemical

VOC means volatile organic chemical

U after a number means not detected, but the result reported is the lab detection limit

R after a number means the data may not be valid

J after a number means the substance was positively identified and the numerical value is an approximate concentration of the substance in the sample